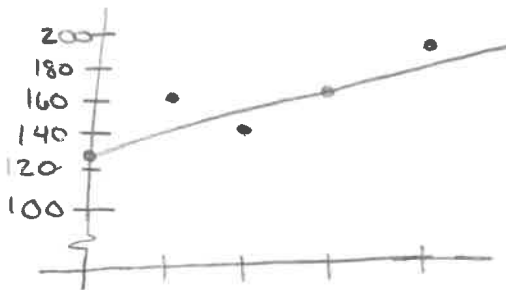


1. A hospital tracks the number of emergency room visits during the fall and winter months

	0	1	2	3	4
Month	Oct	Nov	Dec	Jan	Feb
Visits	124	163	155	171	192

- a. Make a scatter plot by hand and describe the correlation.



positive correlation

- b. Use two ordered pairs to write a prediction equation.

$$(0, 124) \quad (3, 171)$$

$$m = \frac{171 - 124}{3 - 0}$$

$$= 15.67$$

$$y - 124 = 15.67(x - 0)$$

$$y = 15.67x + 124$$

\*your answer may be different

- c. Use your prediction equation to predict the number of emergency room visits for March.  $\rightarrow 5$

$$y = 15.67(5) + 124$$

$$= 202.35$$

$\sim 202$  visits

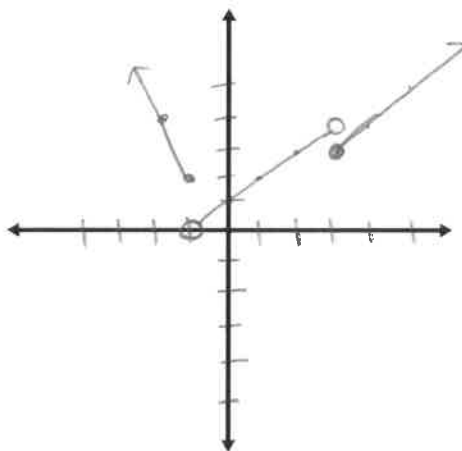
- d. Make a scatter plot on your graphing calculator.  
e. Find the line of best fit on your graphing calculator.

$$y = 14.4x + 132.2$$

2. Graph each function and identify the domain and range.

a.

$$f(x) = \begin{cases} -2x & \text{if } x \leq -1 \\ x + 1 & \text{if } -1 < x < 3 \\ x & \text{if } x \geq 3 \end{cases}$$

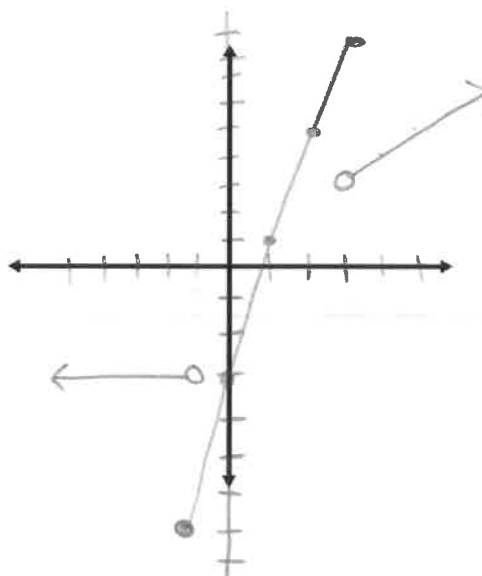


Domain:  $(-\infty, \infty)$

Range:  $(0, \infty)$

b.

$$f(x) = \begin{cases} -3 & \text{if } x < -1 \\ 4x - 3 & \text{if } -1 \leq x \leq 3 \\ x & \text{if } x > 3 \end{cases}$$

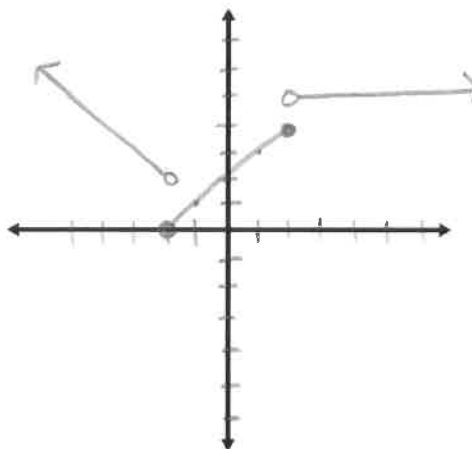


Domain:  $(-\infty, \infty)$

Range:  $[-7, \infty)$

c.

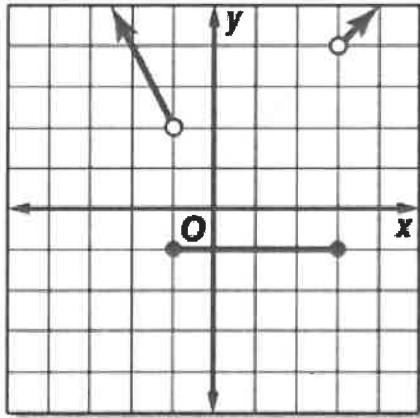
$$f(x) = \begin{cases} -x & \text{if } x < -2 \\ x + 2 & \text{if } -2 \leq x \leq 2 \\ 5 & \text{if } x > 2 \end{cases}$$



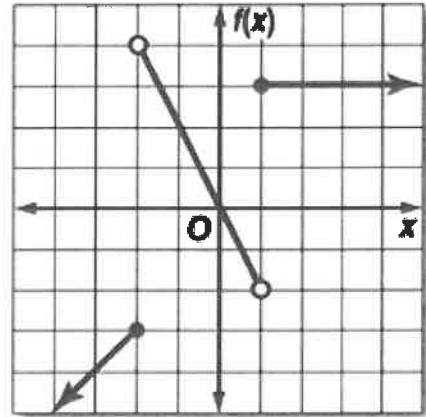
Domain:  $(-\infty, \infty)$

Range:  $[0, \infty)$

3. Write the piecewise function as shown:



$$f(x) = \begin{cases} -2x & , x < -1 \\ -1 & , -1 \leq x \leq 3 \\ x + 1 & , x > 3 \end{cases}$$

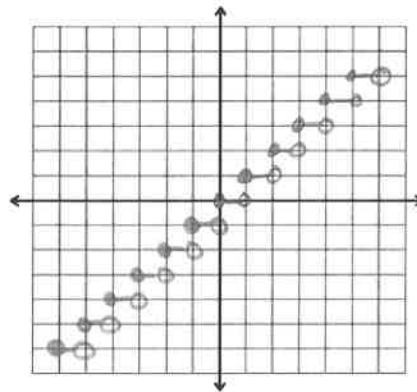


$$f(x) = \begin{cases} x - 1, & x \leq -2 \\ -2x, & -2 < x < 1 \\ 3, & x \geq 1 \end{cases}$$

4. Describe the translation  $y = x^2 + 5$

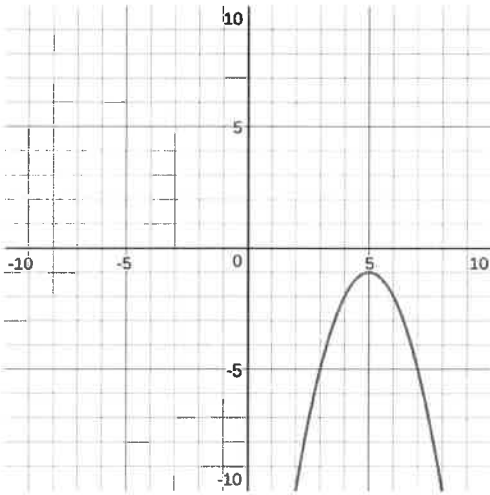
up 5 units

5. Graph  $y = [x]$



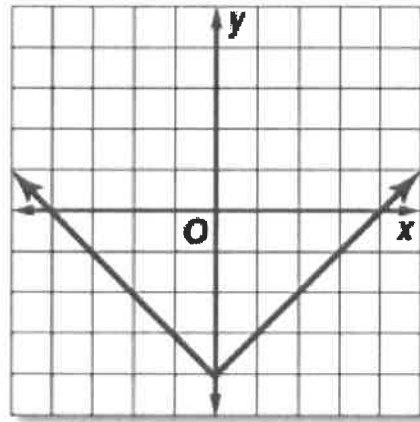
6. Write the equation of the graph:

a.



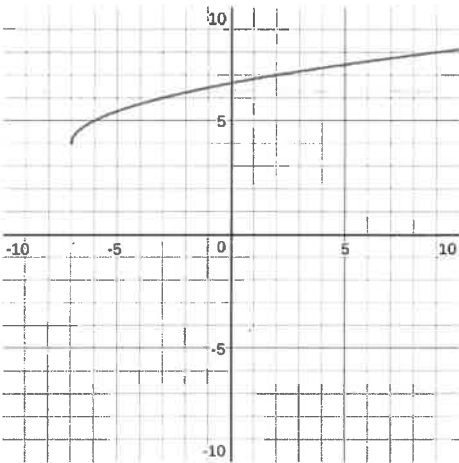
$$y = -(x-5)^2 - 1$$

c.



$$y = |x| - 4$$

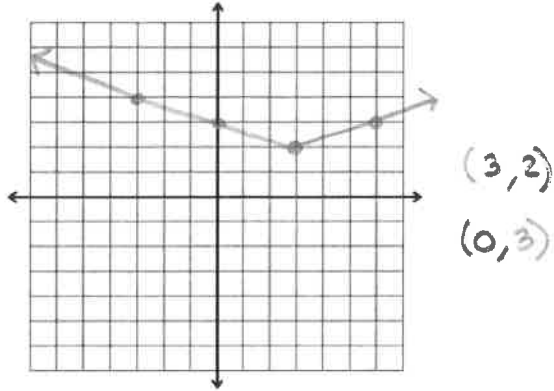
b.



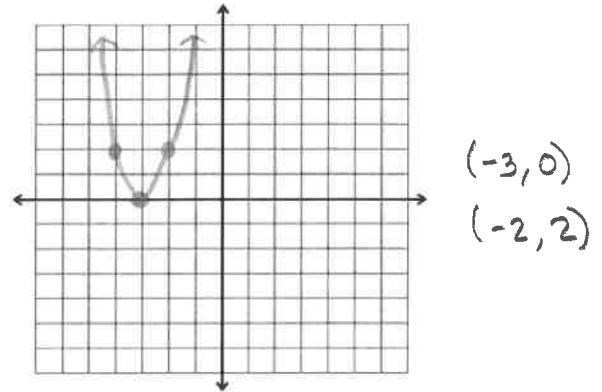
$$y = \sqrt{x+7} + 4$$

7. Graph the following. Label 2 points on the graph.

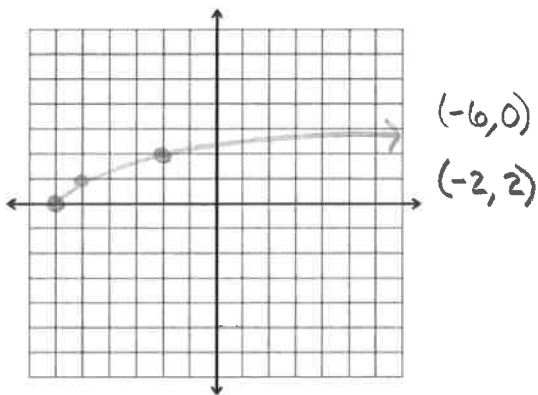
a.  $y = \frac{1}{3}|x - 3| + 2$



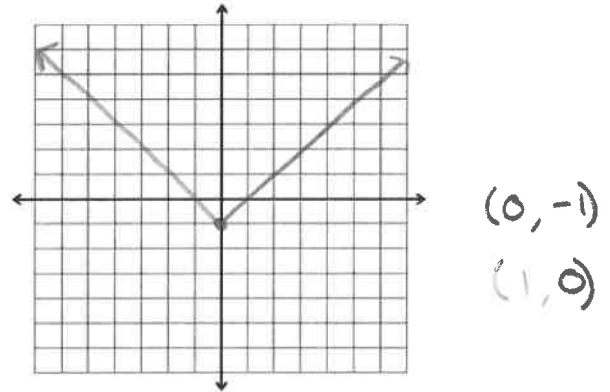
d.  $y = 2(3 + x)^2$



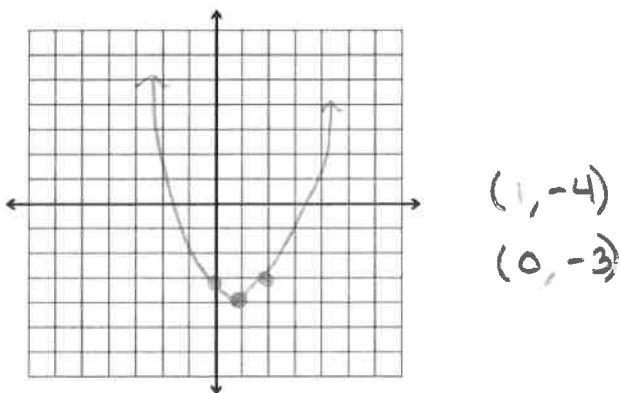
b.  $y = \sqrt{x + 6}$



e.  $y + 1 = |x|$       $y = |x| - 1$



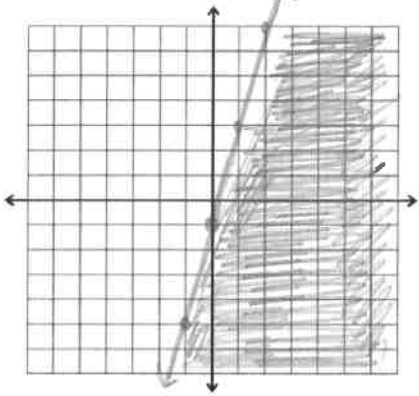
c.  $y = (x - 1)^2 - 4$



Chapter 2 Review  
Honors Algebra 2

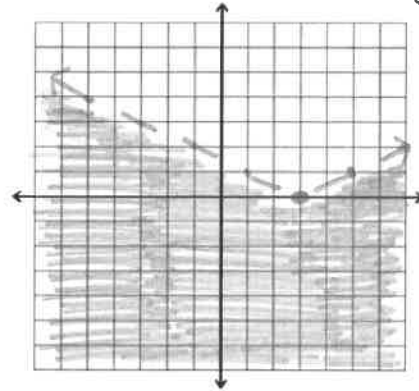
8. Graph the inequality

a.  $y \leq 4x - 1$

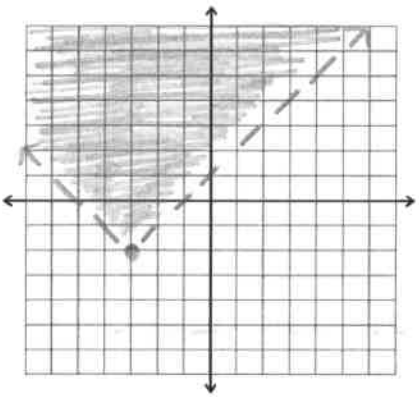


d.  $2y \leq |x - 3|$

$y \leq \frac{1}{2}|x - 3|$

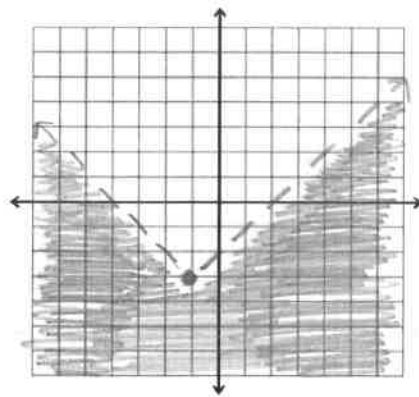


b.  $y > |x + 3| - 2$



e.  $y + 3 < |x + 1|$

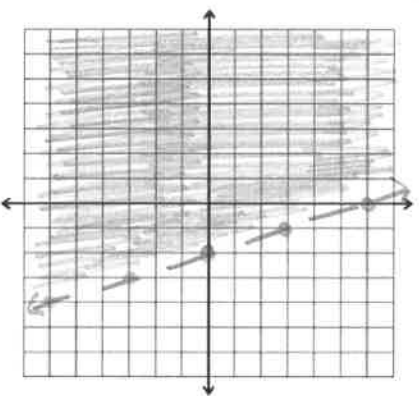
$y < |x + 1| - 3$



c.  $x - 3y < 6$

$-3y < -x + 6$

$y > \frac{1}{3}x - 2$



9. Spencer has saved \$96 for a trip to his favorite bookstore. Each paperback book costs \$8 and each hardback book costs \$12. Write and graph an inequality that shows the number of paperback books and hardback books Spencer can purchase.

$p$  = paperback

$h$  = hardback

$$96 \geq 8p + 12h$$

$$p = 0 \quad h = 8$$

$$h = 0 \quad p = 12$$

hardback

